

Claims

1. A communications system in which data is communicated between a first information processing apparatus and a second information processing apparatus which are interconnected by a network, characterized by comprising:
 - 10 said first information processing apparatus including
 - 15 a transmission clock counter that counts an internal transmission clock,
 - generation means that generates, in a predetermined cycle,
 - 20 synchronization control data that instructs a reset of the value of a reception clock counter that counts an internal reception clock of a second information processing apparatus,
 - transmission means that transmits said synchronization control data generated by said generation means to said second information processing apparatus, and
 - 25 transmission resetting means that resets the value of said transmission clock counter after transmission of said synchronization control data by said transmission means is completed; and
 - 30 said second information processing apparatus including
 - 1 said reception clock counter,
 - data determining means that determines whether or not data that is received is said synchronization control data, and
 - reception resetting means that resets the value of said reception clock counter if said data is determined

as said synchronization control data by said data determining means.

2. The communications system according to claim 1,
5 characterized in that:

said transmission clock counter and said reception
clock counter count values in the same range.

3. The communications system according to claim 1,
10 characterized in that:

said first information processing apparatus further
comprises counter determining means that determines whether
or not the value of said transmission clock counter becomes
zero; wherein

15 if the value of said transmission clock counter is
determined as to become zero by said counter determining
means, said transmission means transmits said
synchronization control data generated by said generation
means to said second information processing apparatus.

20 4. A communications method in which data is communicated
between a first information processing apparatus and a second
information processing apparatus, which are interconnected
by a network, characterized in that:

25 a communications method of said first information
processing apparatus generates synchronization control
data that instructs a reset of the value of a reception
clock counter that counts an internal reception clock of
said second information processing apparatus, transmits
30 said generated synchronization control data to said second
information processing apparatus, and resets the value of

a transmission clock counter that counts an internal transmission clock after transmission of said synchronization control data is completed; and

5 a communications method of said second information processing apparatus determines whether or not data that is received is said synchronization control data, and resets the value of said reception clock counter if said data is determined as said synchronization control data.

10 5. An information processing apparatus for transmitting/receiving data with another information processing apparatus connected thereto by a network, characterized by comprising:

15 a clock counter that counts an internal clock; generation means that generates, in a predetermined cycle, synchronization control data that instructs a reset of the value of a clock counter of said another information processing apparatus;

20 control data transmission means that transmits said synchronization control data generated by said generation means to said another information processing apparatus; and

25 reset means that resets the value of said clock counter after transmission of said synchronization control data by said control data transmission means is completed.

6. The information processing apparatus according to claim 5, characterized in that:

30 said clock counter counts values in the same range as said clock counter of said another information processing apparatus.

7. The information processing apparatus according to
claim 5, characterized by further comprising:

counter determining means that determines whether
5 or not the value of said clock counter becomes zero; wherein
if the value of said clock counter is determined as
to become zero by said counter determining means, said control
data transmission means transmits said synchronization
control data generated by said generation means to said
10 another information processing apparatus.

8. The information processing apparatus according to
claim 5, characterized by further comprising:

adding means that adds to the header of said data,
15 based on the value of said clock counter, a counter value
indicating the timing at which said another information
processing apparatus processes data; and

data transmission means that transmits to said another
information processing apparatus said data to which said
20 counter value added by said adding means.

9. The information processing apparatus according to
claim 5, characterized by further comprising:

acquisition means that acquires a counter value, which
25 indicates the timing at which data is processed, added by
said another information processing apparatus;

time determining means that determines whether or
not the value of said clock counter reaches said counter
value acquired by said acquisition means; and

data processing means that processes said data if said data is determined by said time determining means that the value of said clock counter reaches said counter value.

5 10. An information processing method for transmitting/receiving data with an information processing apparatus connected thereto by a network, characterized by comprising:

10 a generation step that generates, in a predetermined cycle, synchronization control data that instructs a reset of the value of a clock counter of said information processing apparatus;

15 a control data transmission step that transmits said synchronization control data generated by the process of said generation step to said information processing apparatus; and

20 a reset step that resets the value of a clock counter that counts an internal clock after transmission of said synchronization control data by the process of said control data transmission step is completed.

11. A program for causing a computer to execute a process for transmitting/receiving data with an information processing apparatus connected by a network, characterized by comprising:

25 a generation step that generates, in a predetermined cycle, synchronization control data that instructs a reset of the value of a clock counter of said information processing apparatus;

30 a control data transmission step that transmits said synchronization control data generated by the process of

said generation step to said information processing apparatus; and

a reset step that resets the value of a clock counter that counts an internal clock after transmission of said synchronization control data by the process of said control data transmission step is completed.

12. An information processing apparatus for transmitting/receiving data with another information processing apparatus connected thereto by a network, characterized by comprising:

a clock counter that counts an internal clock; data determining means that determines whether or not data that is received is synchronization control data, which instructs a reset of the value of said clock counter at the same time as a reset of the value of a clock counter of said another information processing apparatus; and reset means that resets the value of said clock counter if said data is determined as said synchronization control data by said data determining means.

13. The information processing apparatus according to claim 12, characterized in that:

said clock counter counts values in the same range as said clock counter of said other information processing apparatus.

14. The information processing apparatus according to claim 12, characterized by further comprising:

adding means that adds to the header of said data, based on the value of said clock counter, a counter value

indicating the timing at which said another information processing apparatus processes data; and

5 data transmission means that transmits to said another information processing apparatus said data to which said counter value is added by said adding means.

15. The information processing apparatus according to claim 12, characterized by further comprising:

10 acquisition means that acquires a counter value, which indicates the timing at which data is processed, added by said another information processing apparatus;

time determining means that determines whether or not the value of said clock counter reaches said counter value acquired by said acquisition means; and

15 data processing means that processes said data if said data is determined by said time determining means that the value of said clock counter reaches said counter value.

16. An information processing method, characterized by 20 comprising:

a data determining step that determines if data that is received is synchronization control data, which instructs, at the same time as a reset of the value of a clock counter of said information processing apparatus, a reset of the 25 value of a clock counter that counts an internal clock; and

a reset step that resets the value of said clock counter if said data is determined as said synchronization control data by the process of said data determining step.

17. A program for causing a computer to execute a process for transmitting/receiving with an information apparatus connected thereto by a network, characterized by comprising:

a data determining step that determines if data that
5 is received is synchronization control data, which instructs,
at the same time as a reset of the value of a clock counter
of said information processing apparatus, a reset of the
value of a clock counter that counts an internal clock;
and

10 a reset step that resets the value of said clock counter
if said data is determined as said synchronization control
data by the process of said data determining step.